Sanitized Copy Approved for Release 2011/01/18 : CIA-RDP85T00875R00170003

CIA/OER/IM 72-[redacted] Doc/Ser 67

Confidential

DIRECTORATE OF
INTELLIGENCE

Intelligence Memorandum

A Comparison of the US and Soviet Economies

Confidential
ER IM 72-67
April 1972

Copy No 86

WARNING

This document contains information affecting the national defense of the United States, within the meaning of Title 18, sections 793 and 794, of the US Code, as amended. Its transmission or revelation of its contents to or receipt by an unauthorized person is prohibited by law.

Sanitized Copy Approved for Release 2011/01/18 : CIA-RDP85T00875R001700030067-4

Foreword

This memorandum compares the main aspects of the Soviet economy with those of the US economy. Each chart is accompanied by a brief narration designed to emphasize the key relationships and to discuss aspects of the comparisons that cannot be quantified.

25X1

25X1

CONTENTS

Appendix

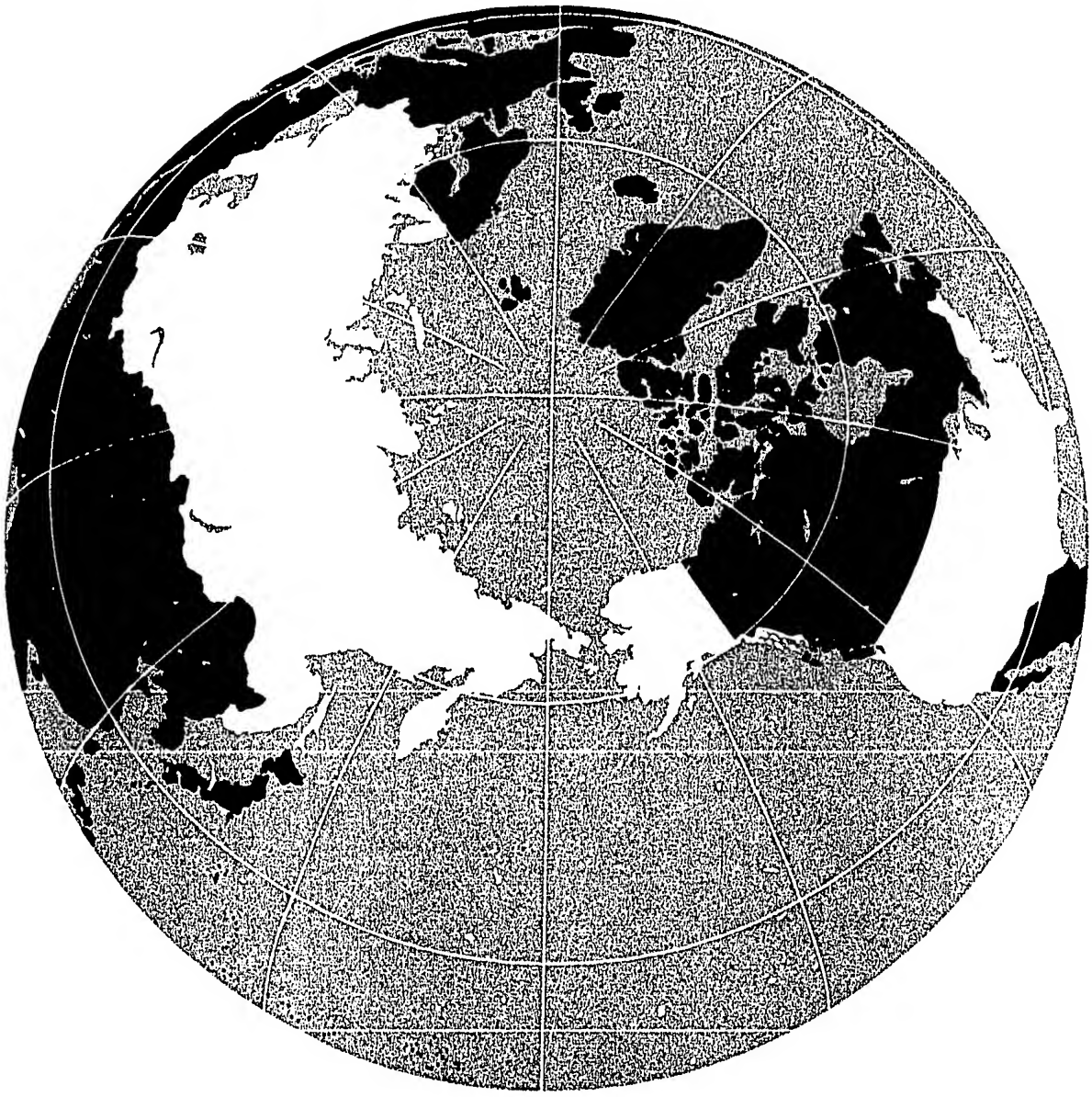
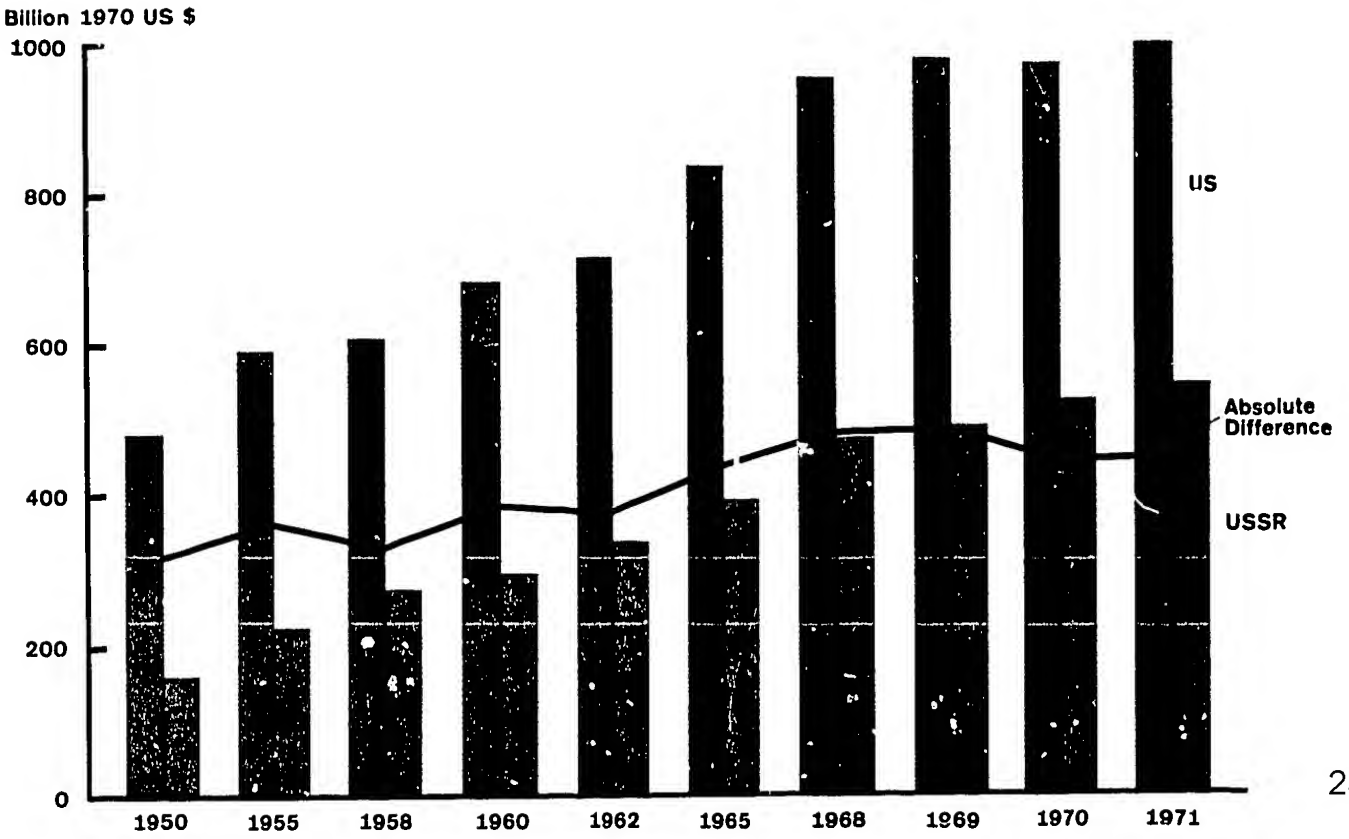


Figure 1

Gross National Product



25X1

513551 4-72 CIA

CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
April 1972

INTELLIGENCE MEMORANDUM

A COMPARISON OF THE US AND SOVIET ECONOMIES

Gross National Product

Overall Economy

The USSR, with a gross national product (GNP) of about $550 billion, has the world's second largest economy, somewhat more than half that of the United States. It has consistently grown faster than the US economy, although Soviet growth slowed after 1960, as follows:

	Average Annual Rate of Growth (Percent)	
	USSR	US
1951-60	6.0	3.6
1961-65	5.2	4.1
1966-70	5.6	3.1
1971	3.3	2.1

In absolute terms, however, the gap between the US and Soviet economies has increased in recent years (Figure 1).

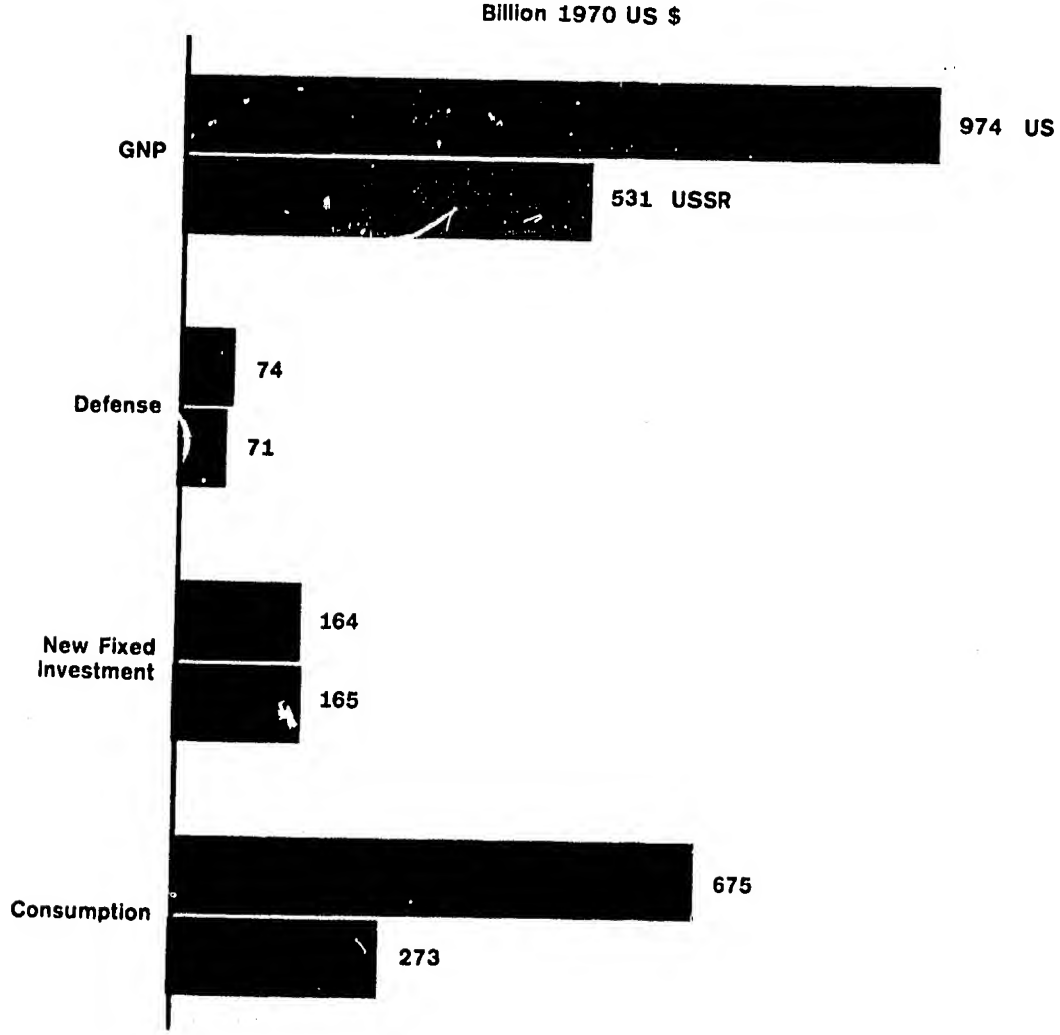
Note: This memorandum was prepared by the Office of Economic Research.

Uses of Output

The Soviet government has always given priority to defense needs and to providing for rapid industrial growth. In their expenditures for defense and investment, the Soviets have achieved approximate parity with the United States (Figure 2). By contrast, Soviet consumption is only about 40% of US consumption, or about one-third on a per capita basis. Moreover, these quantitative comparisons do not measure the very great differences in the quality and variety of the diet, wearing apparel, and consumer durables.

Figure 2

Gross National Product, 1970
by End Use

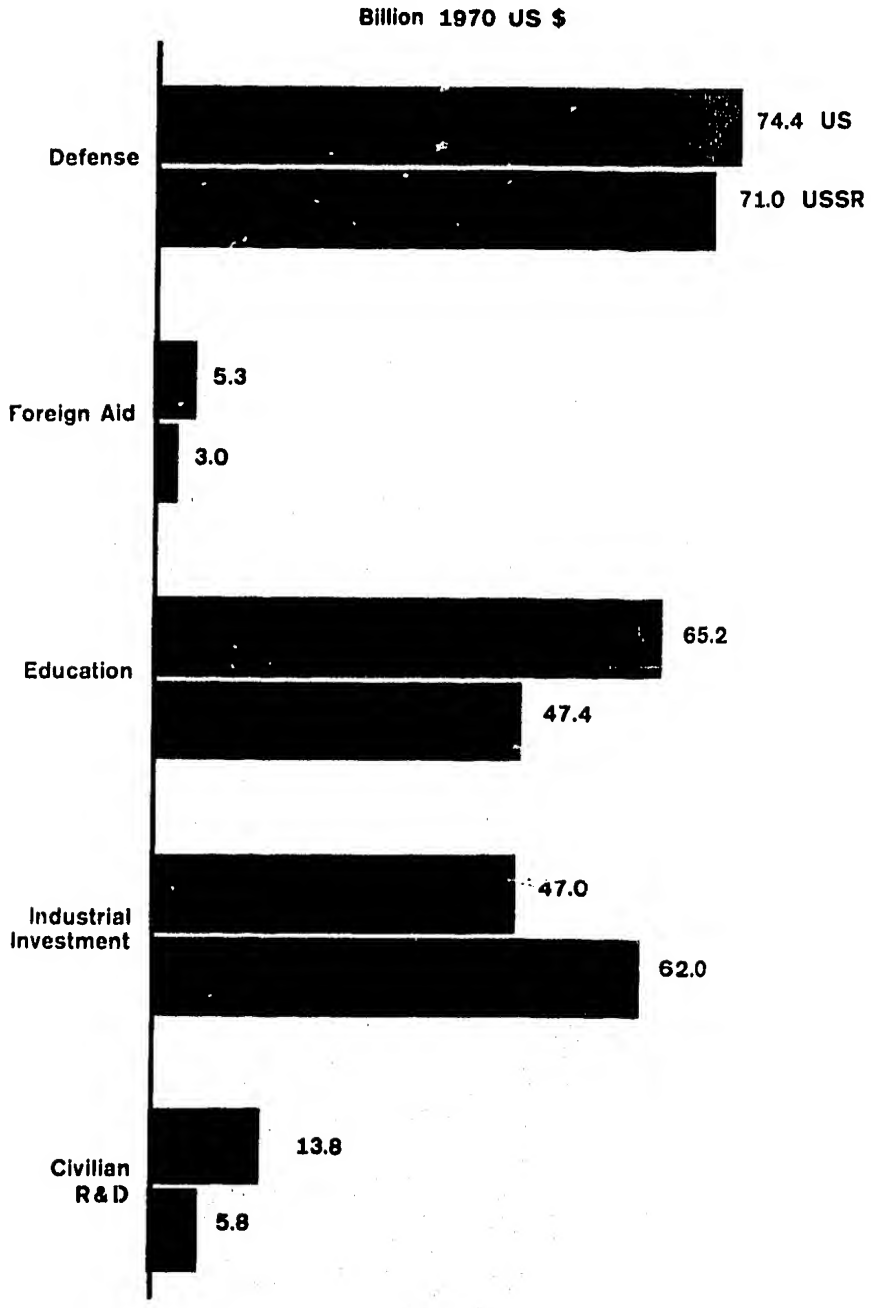


National Policy Expenditures

Important aspects of Soviet economic policy are illustrated by comparison of a group of strategic components of GNP that may be termed national policy expenditures (Figure 3). They include: (1) education, industrial investment, and civilian research and development, which reflect the emphasis on economic growth; and (2) foreign aid and defense, which reflect foreign policy priorities.

Figure 3

National Policy Expenditures, 1970



513548 4-72 CIA

Taken as a whole, Soviet national policy expenditures (measured in dollars) are not far below those of the United States. The Soviets have long regarded increased education as an important element in the economic growth process. The relatively large Soviet investment in industrial plant and equipment indicates the strenuous effort to catch up with US industry. But, despite the Soviet concentration on industrial growth, a large technological gap persists. The USSR spends heavily on advanced education and on research and development, and impressive results in research are frequently achieved. Because of the inflexible management system and the inadequacy of incentives, however, the development and introduction of innovations are inordinately slow.

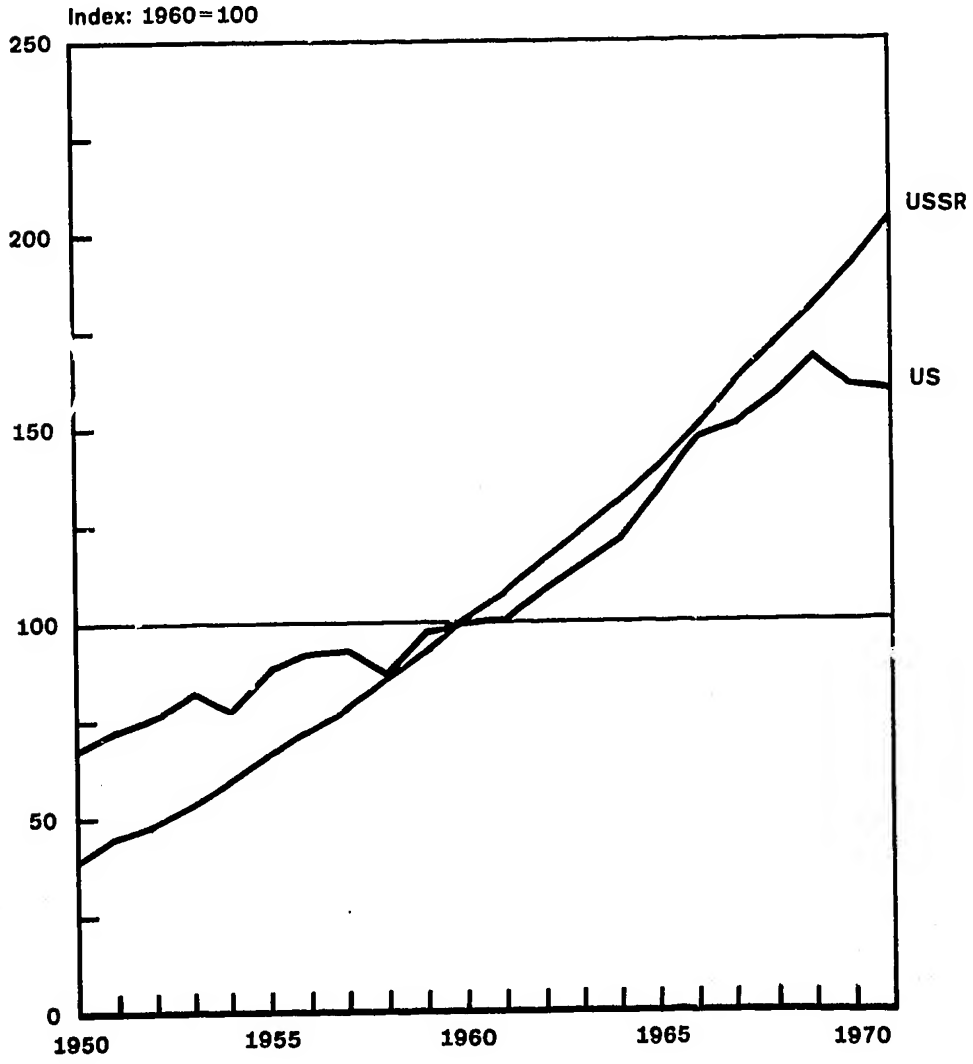
Industry

Industrial Output

During most of the postwar period the USSR achieved a more rapid increase in industrial production than the United States. By 1970, Soviet industrial output reached a level almost five times that of 1950 while US output more than doubled. Soviet industrial growth slowed markedly in the 1960s -- to about 7% a year compared with 10% in the 1950s -- still well above US growth (Figure 4). The Soviet advantage reflects partly a more rapid growth of GNP and partly a slower development of services. Soviet industrial production now stands at almost two-thirds that of the United States.

Figure 4

Industrial Growth



513553 4-72 CIA

A hallmark of Soviet economic development has been the priority expansion of the producers' goods sector, a policy that has begun to be relaxed only in the last few years. A comparison of the output of the two countries' producers' goods industries shows how much progress the USSR has made (Figure 5). The USSR now outproduces the United States in such basic products as steel, cement, and machine tools. At the same time, the USSR remains far behind in production of goods such as electronics and computers which play a critical role in modern technology. And Soviet large-scale production of automobiles is just beginning.

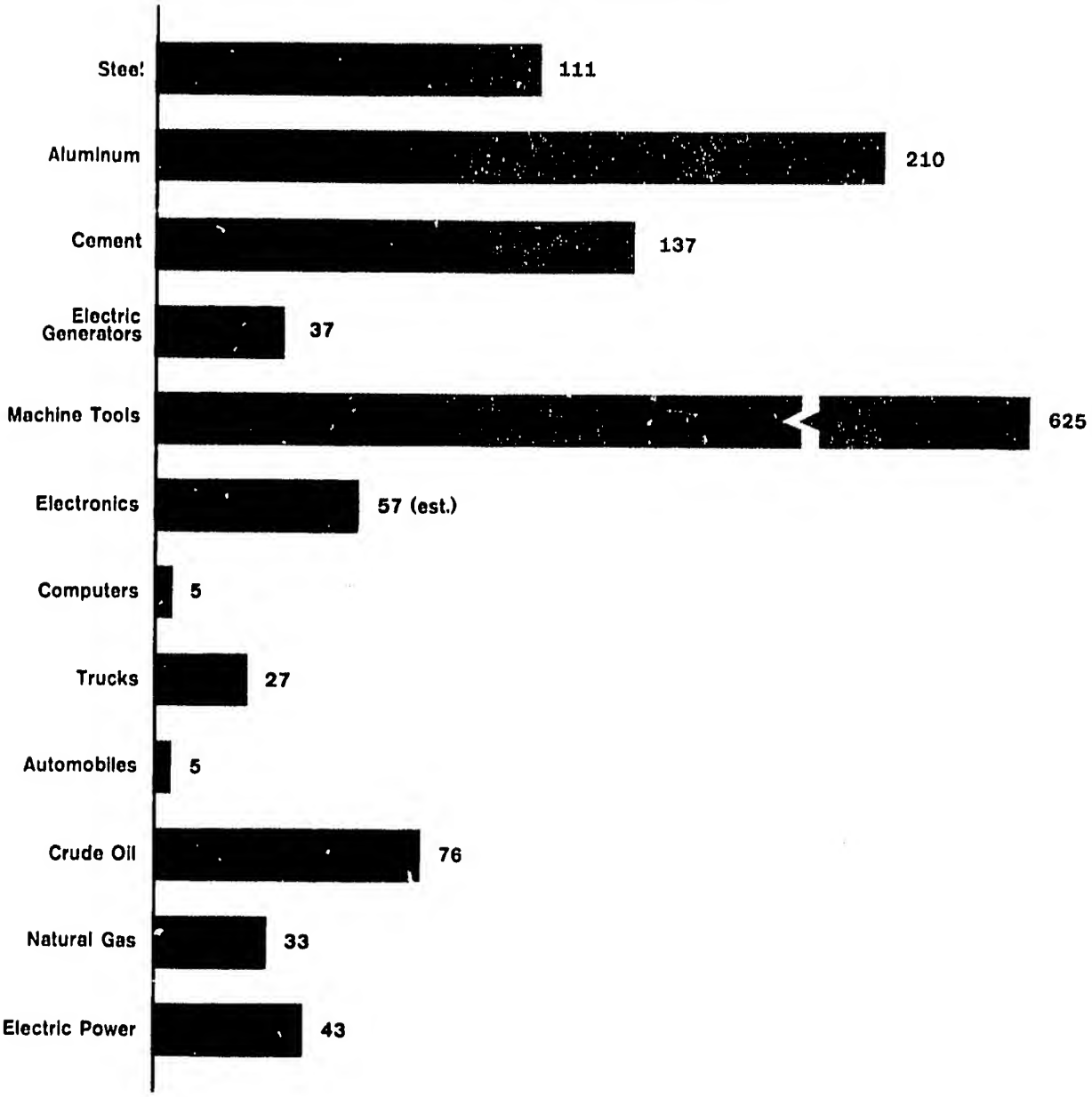
Although the volume of Soviet output is large, the USSR, outside its military-space sector, lags behind the West in the quality of the output of most heavy industries. Most of its steel, for example, consists of the simpler, less specialized varieties; thus the Soviets have been unable to produce the large-diameter pipe needed to develop their distant oil and gas fields. Machine tool production, which was six times US production in 1971 in terms of number of units, consists largely of standard types. The Soviets have had to turn to the West to get a number of crucial components for their several motor vehicle plants now under construction. They have not yet begun serial production of third-generation computers or integrated circuits.

There are exceptions, however. Soviet goods of some kinds have equaled the best in Western designs. These include hydroelectric generating equipment, high voltage transmission equipment, electroslag remelting furnaces, and some kinds of radios and cameras.

Figure 5

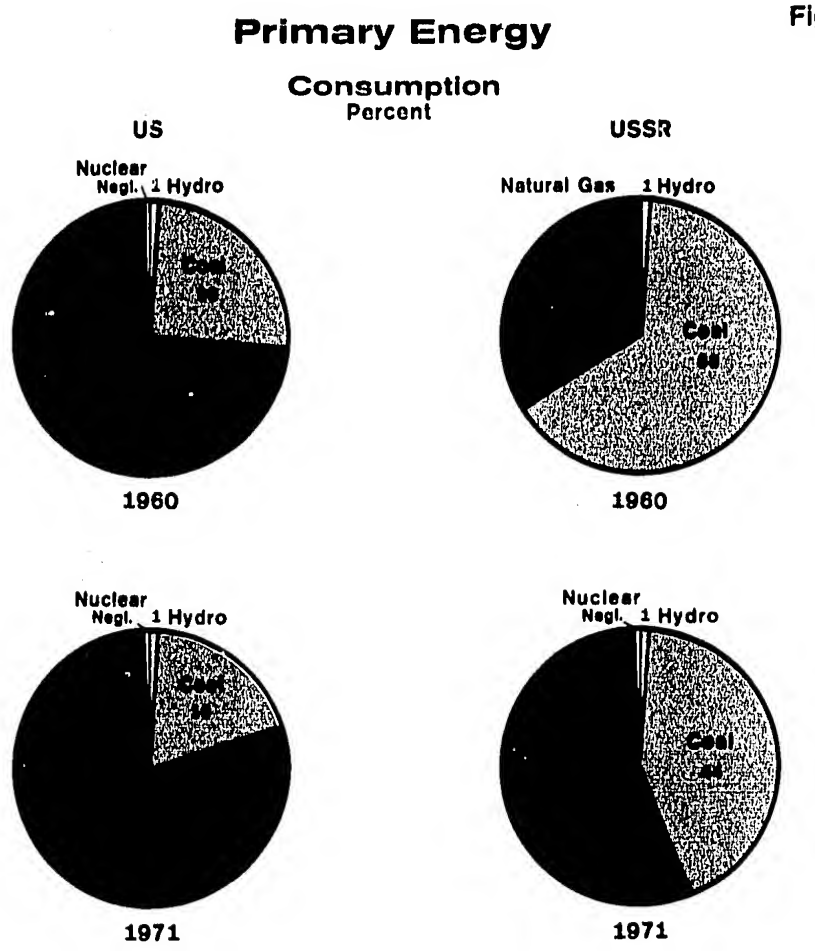
Output of Producers' Goods, 1971

USSR as a Percent of US



513560 4-72 CIA

Figure 6



513552 4-72

Primary Energy

Both the United States and the USSR are well supplied with the primary sources of energy – coal, oil, natural gas, and hydroelectric power (Figure 6). Production continues to rise in both countries in response to escalating demands, but more rapidly in the USSR. Newly discovered resources (especially in the USSR) and increased imports (particularly for the United States) have prevented major shortages thus far. This trend is likely to persist.

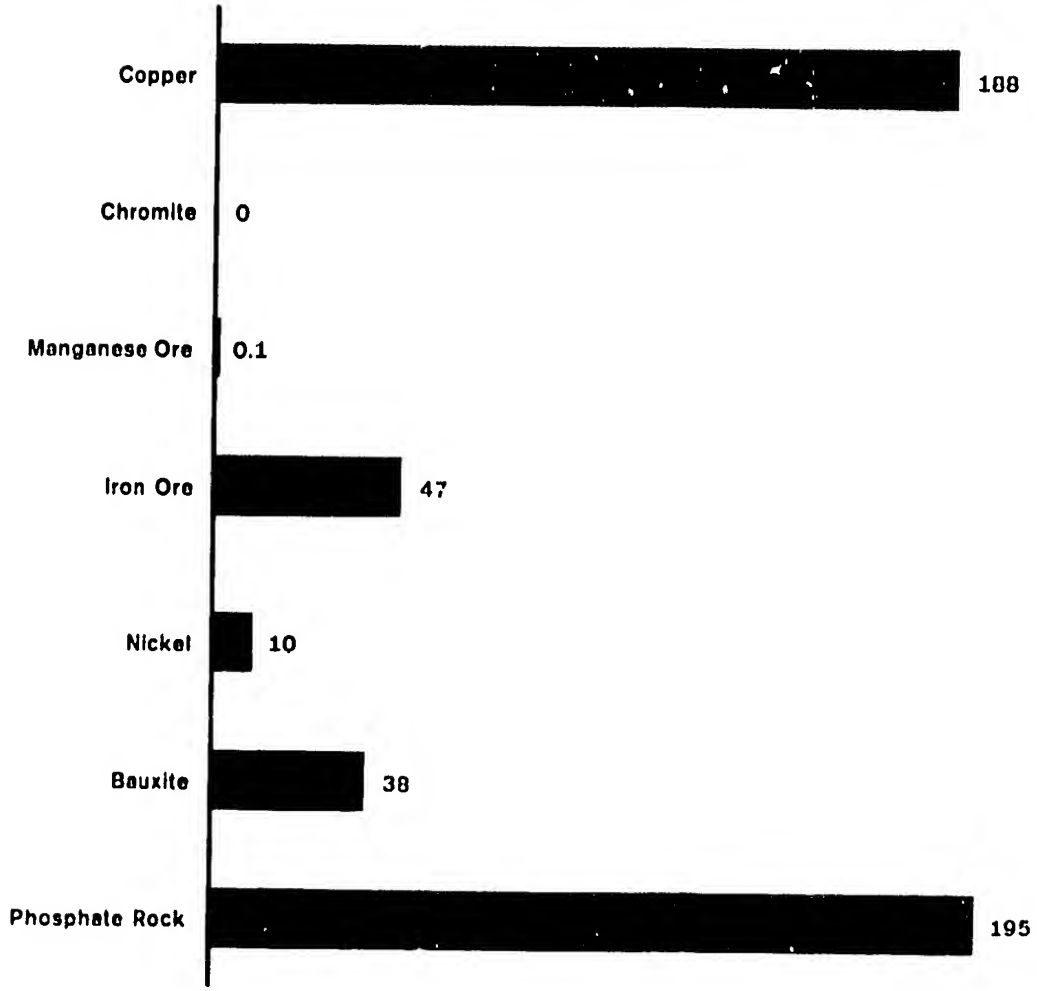
The pattern of energy consumption differs greatly in the two countries. About 44% of Soviet energy comes from coal compared with 19% in the United States, and the Soviet shares of oil and gas are correspondingly much smaller. However, the Soviet consumption pattern is shifting rapidly from coal to oil and gas, following the path of the United States, Western Europe, and Japan.

Both countries are self-sufficient in coal although the USSR produced somewhat more in 1971. Soviet industry is, however, increasingly forced to exploit low-grade deposits far removed from major consumption centers. The United States and the USSR are the world's leading crude oil producers. Each country has about 5% of total proved world reserves, but potential reserves are much more abundant in the USSR. Although US production of natural gas was more than three times Soviet output in 1971, as in the case of oil, potential reserves are much larger in the USSR. Nuclear power will continue to play only a minor role in the overall energy balance of both countries for the next several years.

Figure 7

Output of Metals and Minerals, 1970

US as a Percent of USSR



513548 4-72

Metals and Minerals

A significant factor in the growth of the Soviet economy has been the country's extensive deposits of generally high-quality ores and metals. Many of these deposits, however, are found in the country's northern and eastern regions where exploration and developmental expenditures as well as transportation costs to major consumption areas are extremely high. Until recently the USSR has postponed these expenses by exploiting reserves located in more accessible areas, but these deposits are being depleted and consequently reliance is increasing on development of the more distant sources.

In 1970, Soviet production of platinum-group metals, manganese, nickel, and iron ore far exceeded US output. As for chrome ore and industrial diamonds, the USSR produced significant proportions of total world output while the United States produced neither of these items. US production of copper and phosphates exceeded that of the USSR in 1970, but primarily as a result of lower Soviet demand, since the USSR is well endowed in both of these resources (Figure 7).

Currently, the United States imports large amounts of Soviet chrome ore and platinum-group metals. Copper, diamonds, manganese, and nickel may join this list over time as US demand outstrips domestic supply or alternative sources for imports become less attractive.

As in a number of other industrial areas, the Soviets are looking to the West for the technology and equipment to develop the country's mineral resources. They have done this in the past largely by means of medium-term and long-term credits. Currently, the Soviets are seeking Western aid in developing their raw materials sector through joint ventures involving self-liquidating credit – that is, credit to be repaid out of the product of the joint venture.

Agriculture

Of all sectors of the US and Soviet economies, agriculture offers the greatest contrast in terms of organization and efficiency. Successive Soviet leaderships have had recurring difficulties in assuring an adequate food supply for a growing population. While the USSR has been expanding sown acreage in an effort to increase production, the United States has been reducing the area under cultivation and struggling with farm surpluses.

In some respects, US and Soviet agriculture are similar. Both countries have very large expanses of farm land relative to their populations. Despite the USSR's much larger total area, the amount of arable land in the two countries is roughly equal, as only 11% of the USSR's huge land mass is suitable for farming. Most of the farm land of both countries lies in the north temperate zone. The USSR, however, is less favorably situated because of its more northerly location and because much of its grain acreage is marginal from the standpoint of rainfall. The USSR has no cropland corresponding to the most productive farm regions of the United States: the combination of fertile soil, adequate moisture, and long growing seasons found in the US corn belt is lacking in the USSR where low temperature and overmoist lands prevail in the north and aridity characterizes the south.

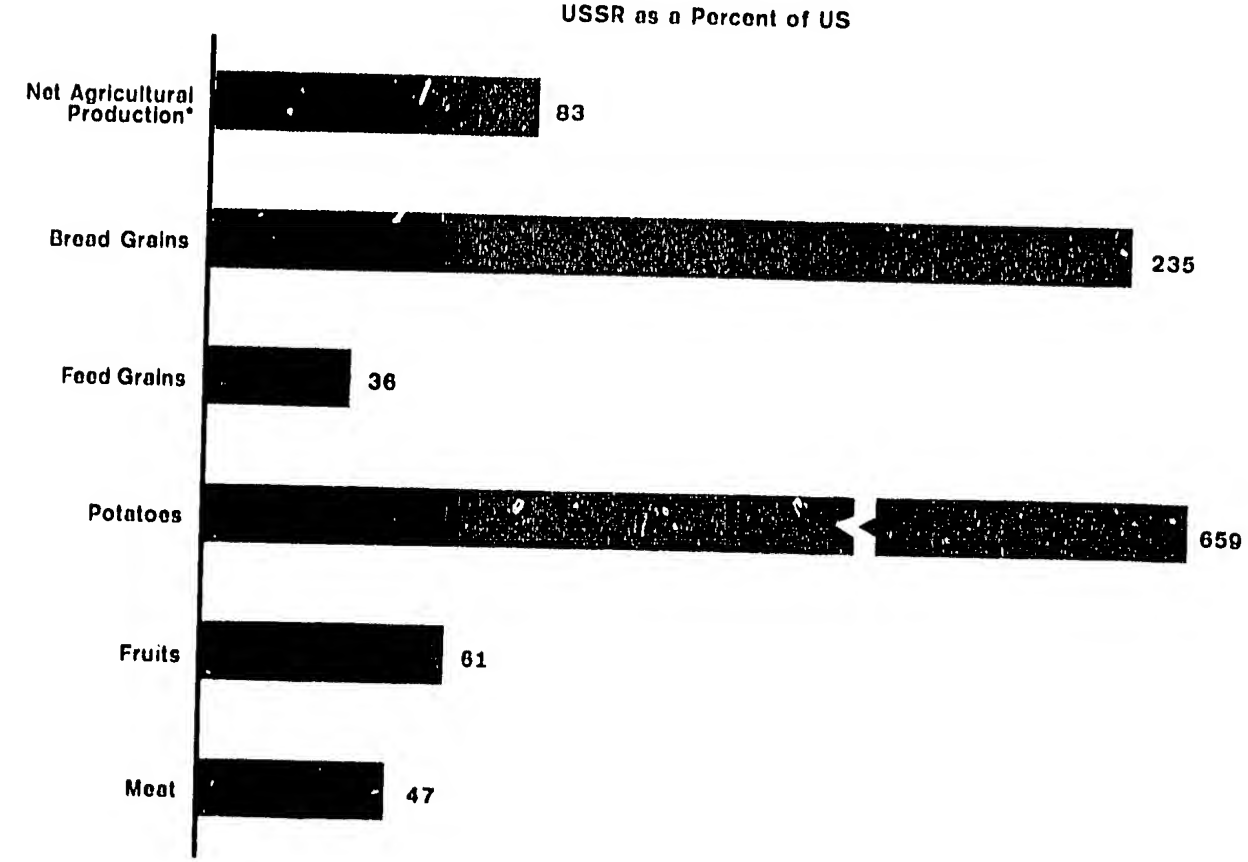
Institutional differences are vast. The collectivization of agriculture in the USSR has resulted in the division of farm organization into two sectors – the socialized sector which consists of state and collective farms and accounts for two-thirds of agricultural production, and the private sector consisting of small private garden plots accounting for one-third of total farm output.

Soviet agricultural output, which was two-thirds of the US level in 1960, increased about 40% over the past decade and now stands at slightly more than 80% of US production (Figure 8). However, Soviet farm output is still dominated by bread grains and potatoes – the USSR produces about twice as much wheat as the United States but only 7% as much corn – while output of higher quality foods, particularly meat and fruits, lags far behind that of the United States and is patently inadequate to satisfy the growing demands of the Soviet consumer.

Although Soviet farm output has increased and diets have improved somewhat, the additions to agricultural production in recent years resulting from the larger flows of new plant, equipment, and soil additives have been below expectations. Thus the USSR has recently imported large quantities of meat and grain from the West and has scheduled further imports of bread grains and feed grains for 1972.

Figure 8

Output of Selected Agricultural Products, 1970



*Based on the value of agricultural commodities available for sale or home consumption, excluding feed and seed.

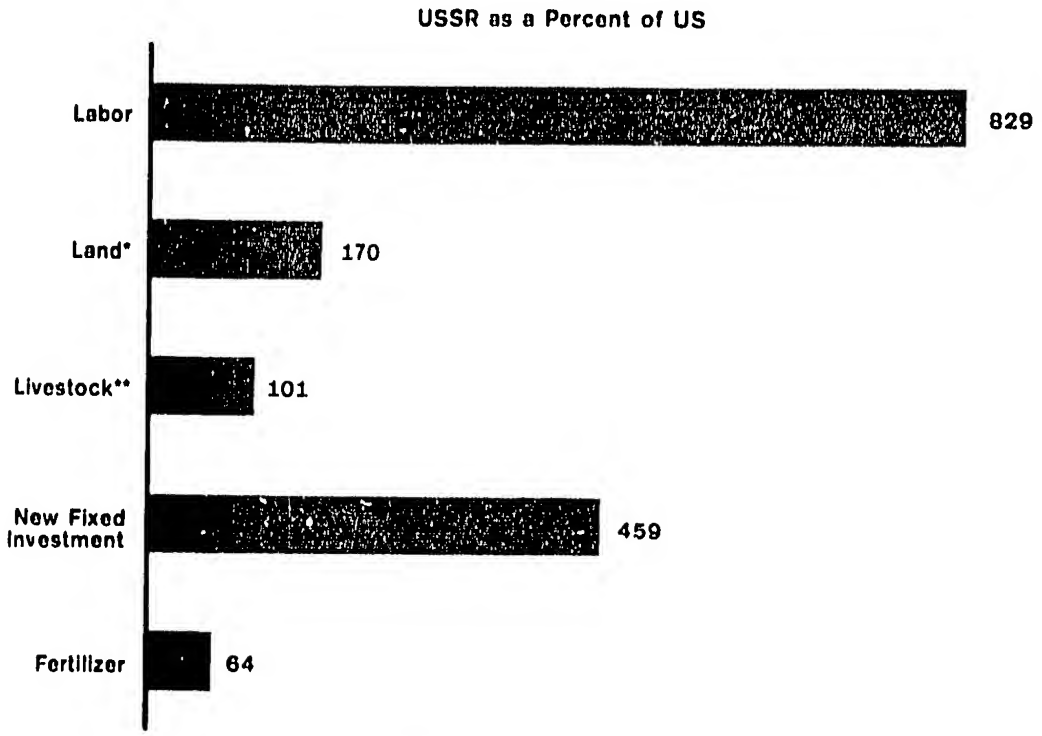
513561 4 72

The USSR employs a farm labor force more than eight times the size of that in the United States on two-thirds more cultivated land (Figure 9). But in the USSR, one farm worker feeds six while in the United States he feeds 45. The USSR maintains almost one-third of its labor force in agriculture, by far the largest share among industrialized nations; the United States employs only 4% of its labor force in agriculture.

Despite heavy capital investment – 18% of total investment in the USSR versus 4% in the United States – the withdrawal of manpower from Soviet farms is relatively slow, and mechanization of the agricultural sector lags far behind the US level. Deliveries of equipment to agriculture are large but erratic and have not always coincided with needs. Thus, although inventories have increased substantially since the 1950s, Soviet farms still

Figure 9

Factors of Production in Agriculture, 1970



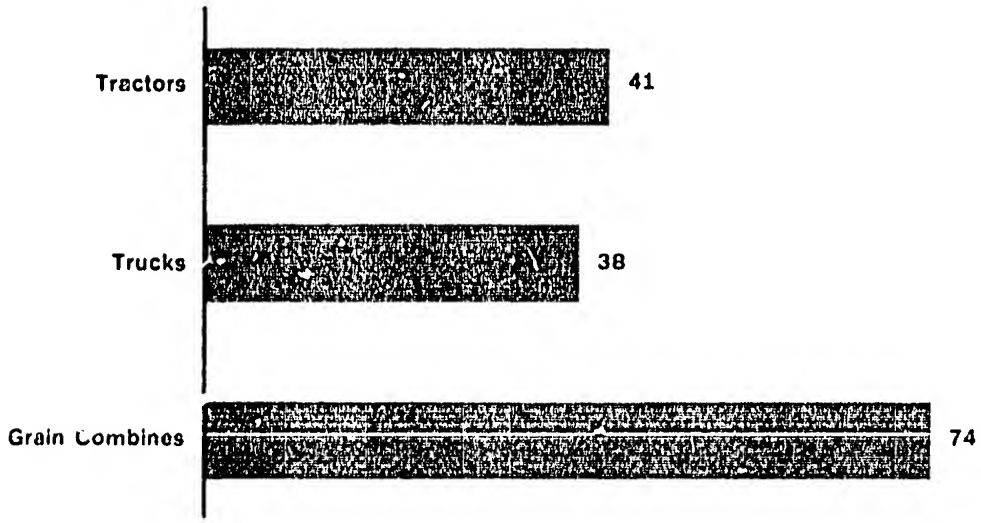
have only one-half as many tractors and trucks as US farms and three-fourths as many combines (Figure 10). Moreover, efficient utilization of Soviet mechanized equipment is hampered by the poor state of repair work.

A major cause of inefficiency in Soviet agriculture is the collective farm system. Soviet farmers and their families work their private plots intensively and are not given adequate incentives to produce efficiently on the collective land.

Figure 10

Inventories of Agricultural Equipment, 1971

USSR as a Percent of US

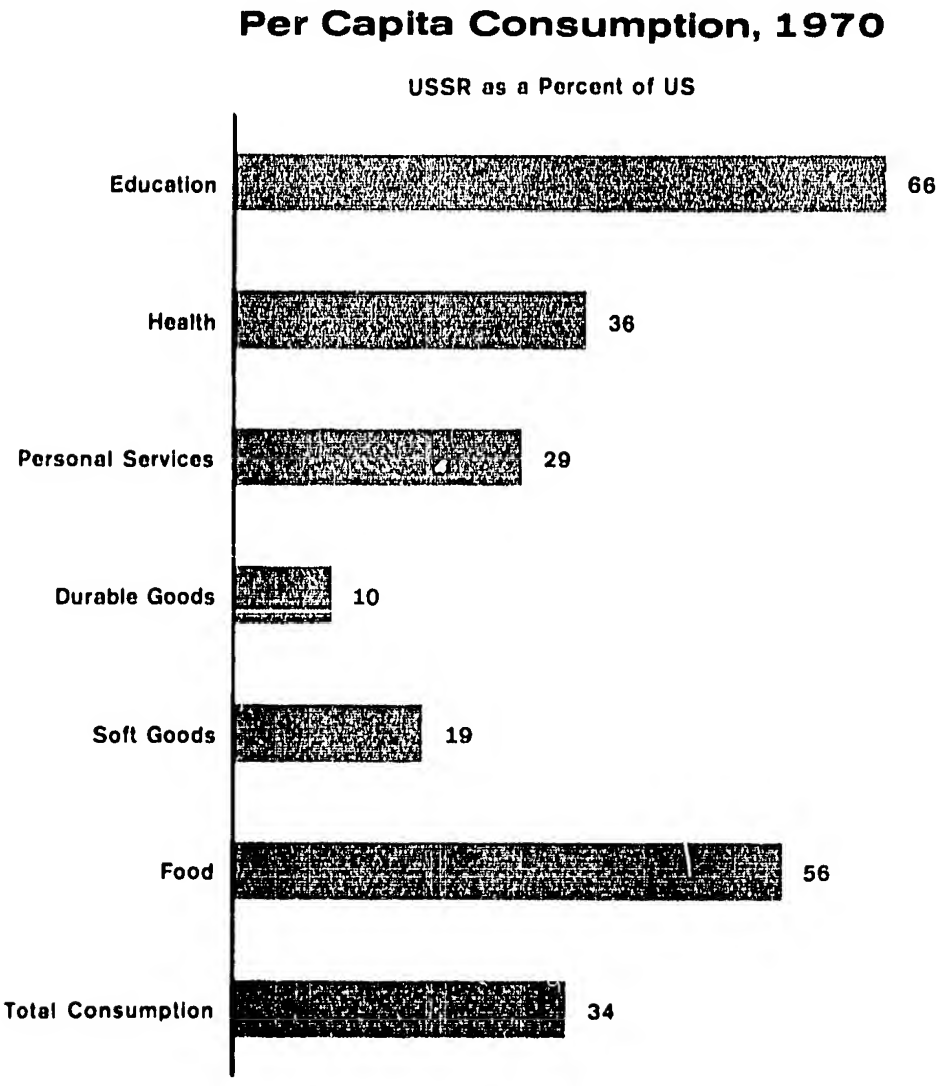


513549 4-72

Consumer Welfare

In 1970 the average Soviet citizen consumed about one-third of the goods and services consumed by his US counterpart but this comparison fails to reflect fully the inferior quality and assortment of styling of Soviet clothes and durables, the chronic shortages, and the long queues at retail stores (Figure 11).

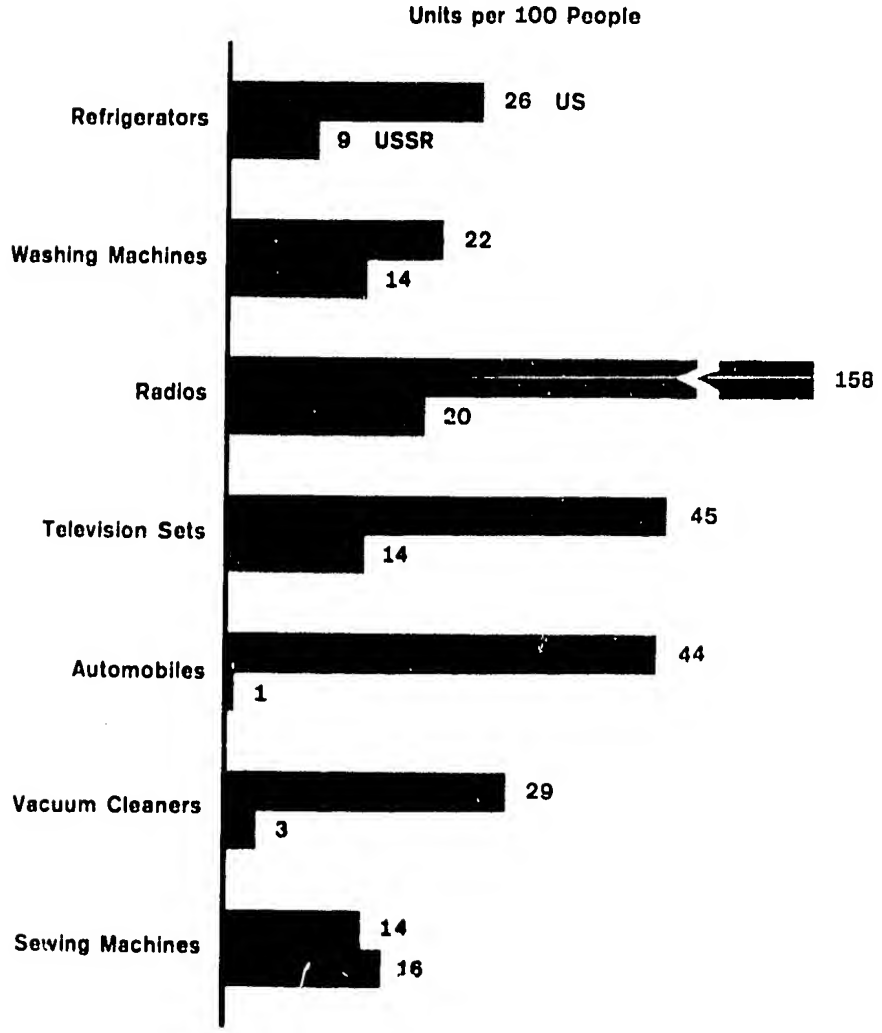
Figure 11



Except for sewing machines, Soviet consumers enjoy only a fraction of the durables owned by their US counterparts (Figure 12). Automobiles are only now beginning to be produced for the public at the Toliatti plant built by Fiat. Currently the waiting period for a new car runs from 4 to 6 years. Shorter, but nonetheless extensive delays exist for the best-quality refrigerators and furniture. Many durables -- automatic washers, dryers, and freezers -- are not manufactured or sold in the USSR. On the other hand, both color and black-and-white television sets, radio-phonographs, transistor radios, and tape recorders are available off the sales floor. The poor quality of the color in Soviet television sets, their high price, and the few hours of color programming per week have turned Soviet consumers away from this product.

Figure 12

Stocks of Consumer Durables, 1970



513547 4-72

Housing conditions in the USSR are one of the major causes of popular discontent. The Soviets have built urban housing at a very rapid rate during the last decade, but, because of the large growth of urban population, the number of square meters of space per person increased from only 6 in 1960 to about 7.5 in 1970. Housing space per capita for the total population in the USSR, however, is still only one-third that in the United States. A substantial percentage of the urban apartments involve the sharing of bathrooms and kitchens and a considerable number of communal dwelling units exist, but increasingly larger percentages of urban families are obtaining apartments with their own bath and kitchen facilities.

Soviet consumers receive enough to eat in terms of daily calories, but their diet is heavily weighted with starches and deficient in meat, vegetables, and fruit (Figure 13). Although per capita consumption of meat has increased 14% since 1965, the average Soviet citizen still eats only one-third as much meat as that consumed by his US counterpart (Figure 14). However, the Brezhnev regime is clearly committed to expanded meat production to alleviate the worst shortages.

Figure 13

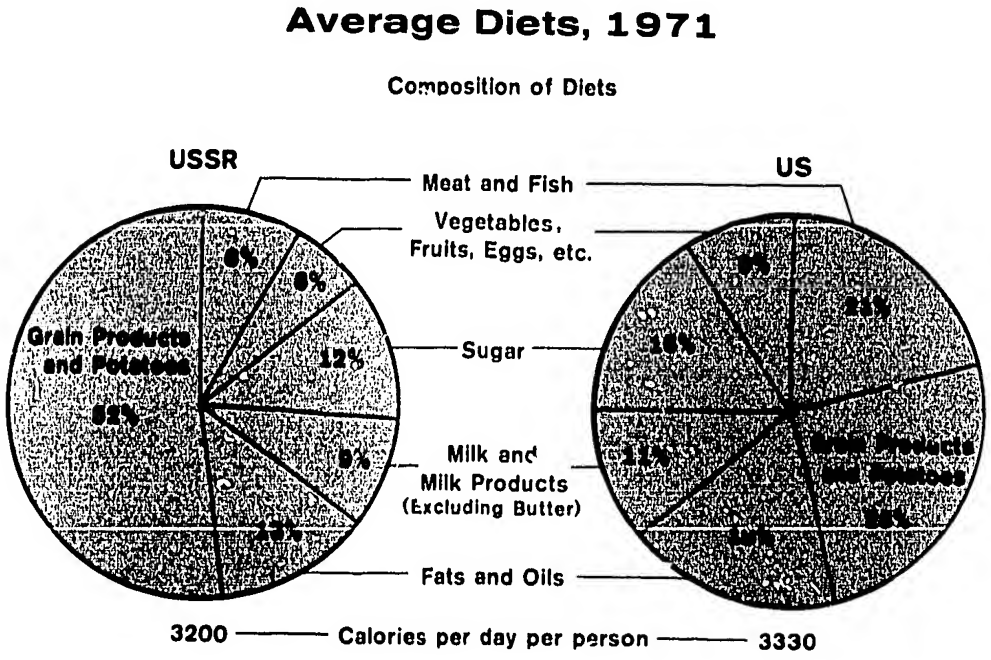


Figure 14

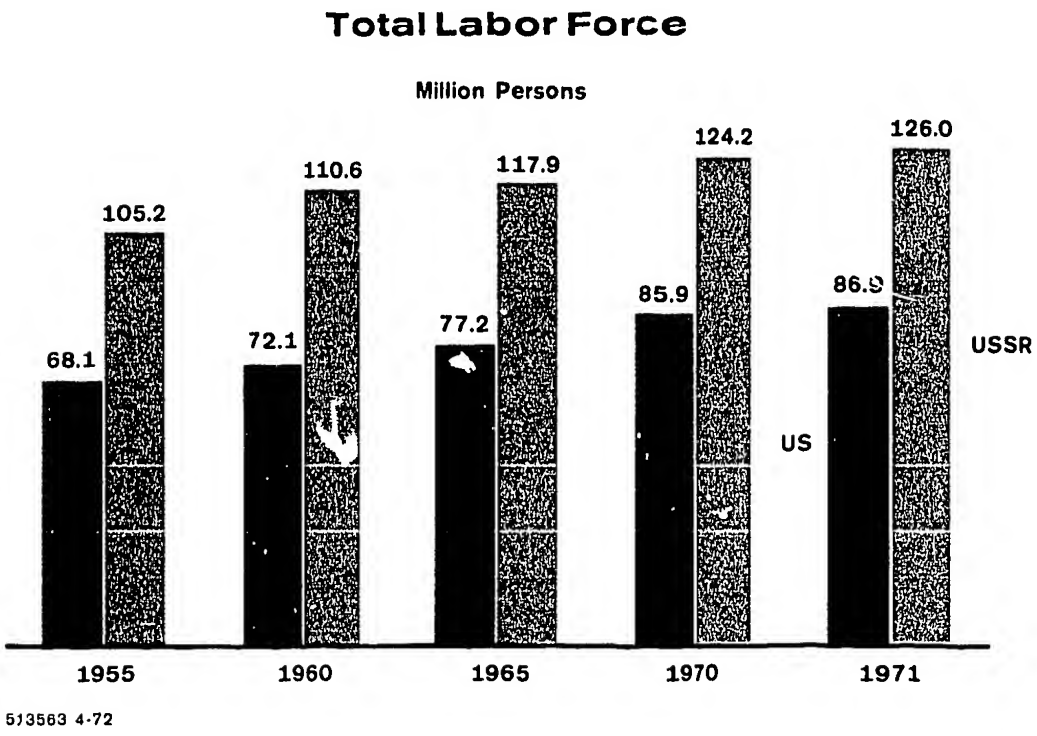
Per Capita Meat Consumption in Selected Countries, 1970

513558 4-72

Labor Force

The Soviet population is 18% larger than the US population, but the total labor force of the USSR exceeds that of the United States by 45%, a ratio which has not appreciably changed since 1955 (Figure 15). A basic factor accounting for the larger share of employed persons in the USSR is the greater use of women workers. In 1970, one worker in two in the USSR was a woman, while in the United States the ratio was one out of three.

Figure 15

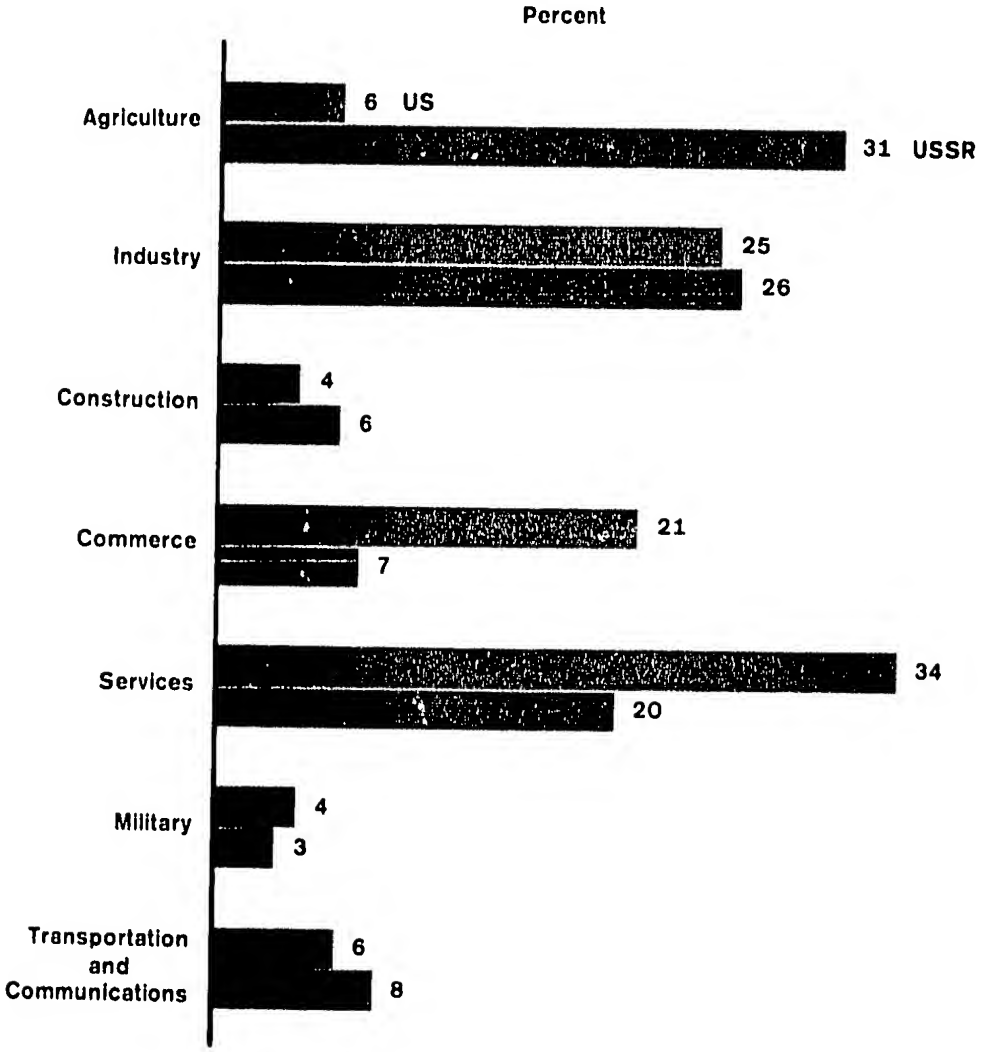


The sharpest difference in structure between the US and the Soviet labor force is in agriculture, where Soviet employment now reaches a level eight times that of the US in 1970 (Figure 16). By contrast, only one-third of the US labor force is employed in services, while less than one-fifth work there in the USSR. However, the Soviet service sector is growing rapidly as a proportion of the nonagricultural labor force – from 24% in 1960 to 28% in 1970.

Commerce (that is, retail trade, banking, insurance, and real estate), like services, is only now emerging from an embryonic stage in the Soviet Union. These activities employ one-fifth of the US labor force and only 7% of the Soviet force. The United States has slightly fewer men under arms than the USSR – 3.2 million in the United States compared with 3.3 million in the USSR in 1970. In both countries, about one-fourth of the work force is employed in industry, while construction takes 4% to 6% of the labor force and transportation-commmunications 6% to 8%.

Figure 16

Distribution of Total Employment by Sector, 1970



513550 4-72

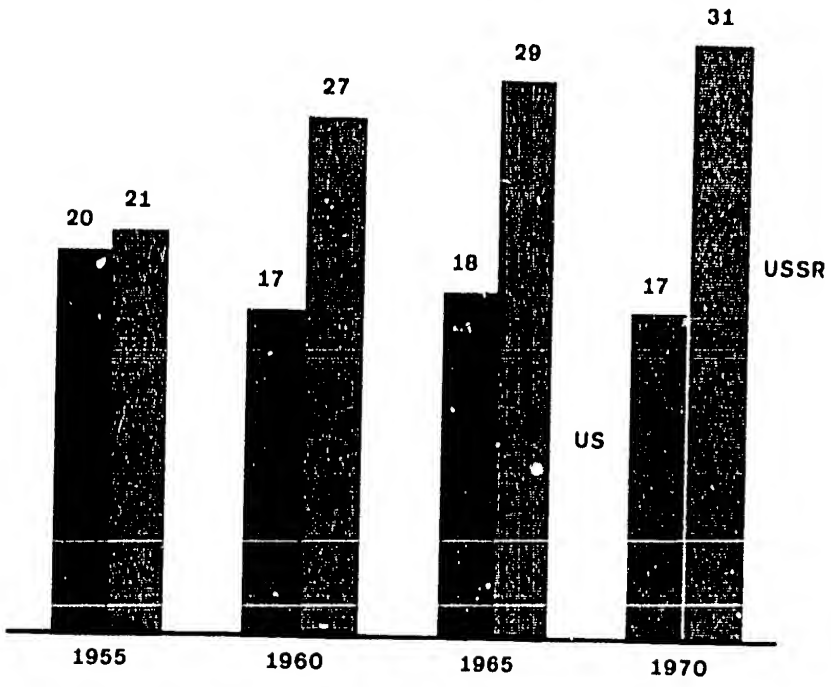
Productivity

Soviet growth in the past has been fueled by large and increasing outlays on investment (Figure 17). In 1970 the share of GNP allocated to capital formation exceeded 31% compared with 17% in the United States.

Figure 17

Total Investment*

As a Percent of GNP

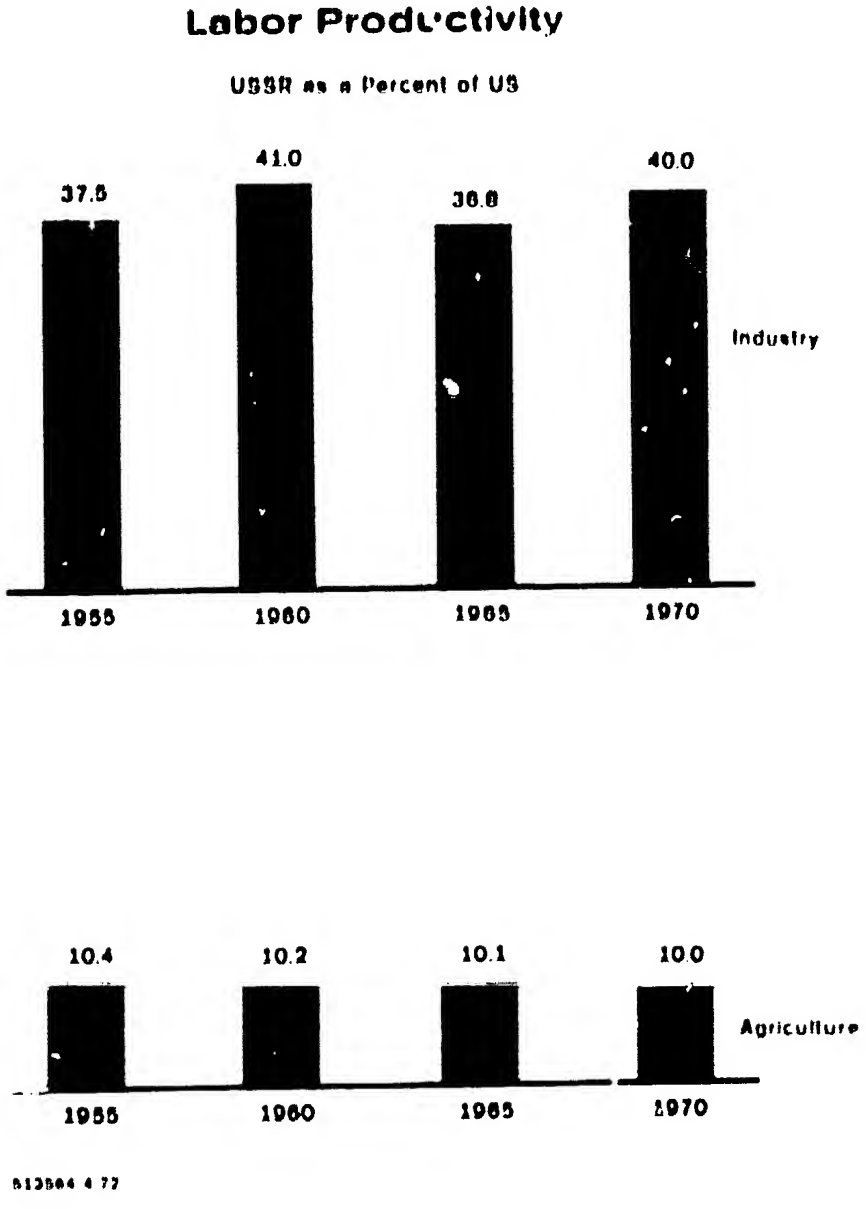


*Investment includes expenditures for new plant and equipment, capital repair, and R & D.

513559 4-72 CIA

In spite of this high rate of investment, labor productivity in the two countries has grown at about the same rate since 1950 (Figure 18). Labor productivity in Soviet industry was about 40% of US levels both in 1955 and in 1970. The marked Soviet advantage over the United States in the rate of growth of industrial output reflects a more rapid increase in employment, not in productivity. Similarly, growth in agricultural productivity has barely matched US performance, and agricultural labor is only 10% as productive in the USSR as in the United States in spite of a decade of much larger investments in Soviet agriculture.

Figure 18

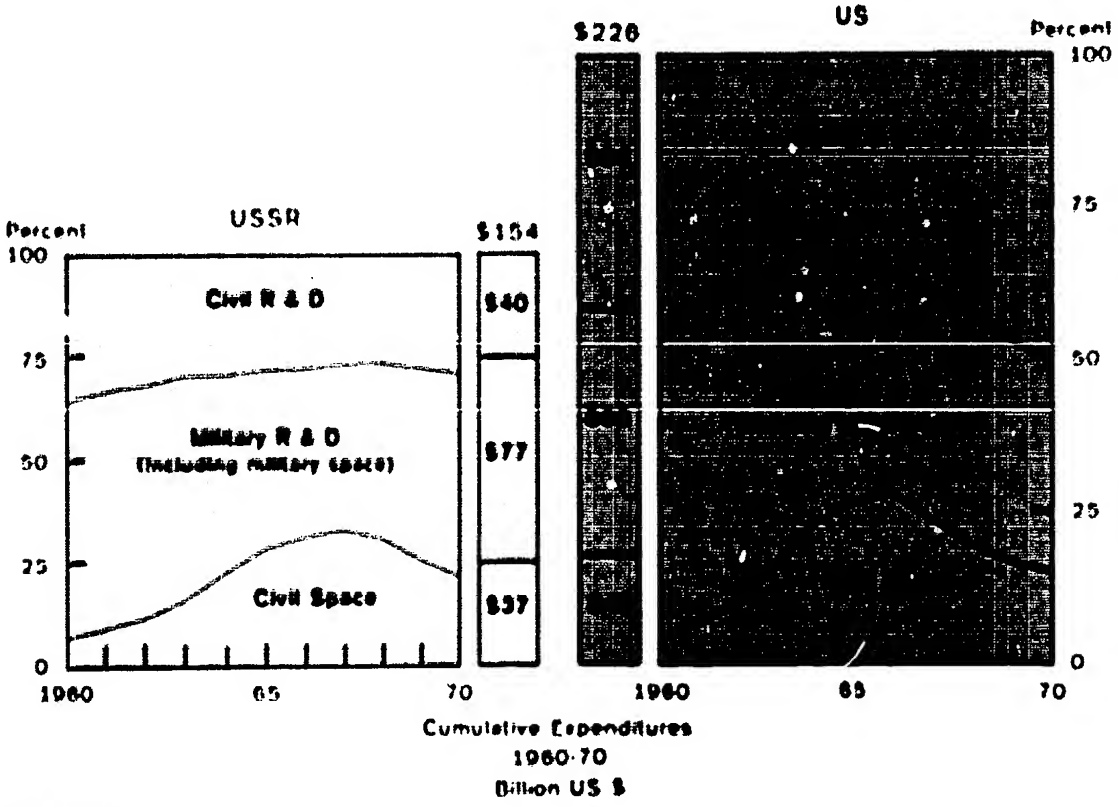


The consistently poor performance in productivity stems from the many managerial problems of a centralized and bureaucratic socialism. Rewards and pressures are directed toward increasing output, while the introduction of new technology involves risks of failure. In addition, the armed forces preempt the larger share of research and development (R&D)

funds and get the best scientific talent (Figure 19). Civilian R&D receives only 25% of total R&D outlays in the USSR against 40% in the United States. Moreover, three fourths of the funds allocated to all R&D in the USSR go for basic and applied research rather than to translating research into the development of new processes and products. In contrast, the United States spends three-fifths of its total allocation to R&D on developing new processes and products.

Figure 19

Expenditures for Research and Development and Space



APPENDIX

Economic Indicators

	USSR					US	
	1955	1961	1965	1971	1975	1975	
GNP (billion 1973 US $)	227.3	294.8	297.8	330.4	348.4	1,300.4	a
Population, mid-year (million persons)	196.5	214.3	230.8	242.8	253.3	207.1	
Per capita GNP (1970 US $)	1,559	1,796	1,723	1,883	1,979	6,830	a
Industrial production index (1961 = 100)	56.6	100.0	139.2	197.4	201.2	140.6	a
Net agricultural production index (1961 = 100)	88.3	100.0	118.9	144.5	148.3	121.3	b
Bread grains (million metric tons)	83.6	59.7	62.3	91.3	99.3	45.8	
Feed grains (million metric tons)	42.9	34.3	37.3	58.3	58.0	144.5	
Potatoes (million metric tons)	72.9	84.6	89.7	94.9	96.3	14.6	
Meat (million metric tons)	5.7	7.3	8.3	13.4	11.6	17.5	
Total labor force (including the armed forces), annual average (million persons)	105.2	110.4	111.9	118.2	120.3	86.9	
Non-agriculture, annual average (million persons)	69.3	80.7	92.8	93.8	95.9	79.7	
Agriculture, annual average (million persons)	69.8	66.6	62.3	57.5	56.9	7.2	
Total investment index (1961 = 100)	74.2	100.2	115.6	135.3	204.7	144.7	b
Per capita consumption index (1961 = 100)	64.6	100.3	111.7	141.1	148.6	118.9	b
Crude oil (million metric tons)	70.8	148	243	353	547	483	
Natural gas (billion cubic meters)	9.2	45	128	198	303	577	
Electric power (billion kilowatt-hours)	170	292	507	740	944	1,918	
Petroleum products (million metric tons)	91	154	278	392	484	603	
Coal (million metric tons)	390	494	585	578	592	607	
Primary energy production (million metric tons of coal equivalent)	635	868	982	1,287	1,491	1,743	
Crude steel (million metric tons)	85.3	85.3	91.3	115.9	120.7	109.3	
Cement (million metric tons)	22.5	45.5	72.8	95.2	100.3	72.5	b
Aluminum (thousand metric tons)	430	630	1,000	1,720	1,760	3,600	
Refined copper (thousand metric tons)	377	690	772	1,130	1,130	1,745	
Chromite (million metric tons)	0.3	0.5	1.2	1.4	1.4	Negl.	
Manganese ore (million metric tons)	4.7	5.9	7.5	6.9	6.8	Negl.	
Iron ore (million metric tons)	71.9	135.9	153.4	195.5	203.3	86.3	
Nickel, refined (thousand metric tons)	46	72	130	140	151	18	
Bauxite (thousand metric tons)	2,720	3,113	8,960	5,300	5,300	2,300	
Phosphate rock d/ (million metric tons)	N.A.	5.8	22.5	18.1	19.5	34.5	b
Automobiles (thousand units)	127.8	138.8	201.2	344.2	529	8,716	
Trucks, including buses (thousand units)	337.5	384.8	615.1	571.8	564	1,114	
Electric generators (thousand kilowatts)	4,526	7,915	14,190	10,578	13,400	36,344	
Machine tools, metalcutting (thousand units)	127.1	153.9	186.1	200.6	203.3	32.8	
Instruments (billion rubles, 1967 prices)	268	920	1,460	2,532	3,153	N.A.	
Computers, digital (units)	60	280	670	800	1,200	20,000	
Refrigerators (thousand units)	151	529	1,475	4,140	4,600	5,491	
Washing machines (thousand units)	87	895	2,430	5,241	4,130	4,404	
Radios (thousand units)	3,549	4,143	5,182	7,813	8,800	20,400	
Television sets (thousand units)	495	1,726	3,653	6,492	5,800	11,200	
Vacuum cleaners (thousand units)	131	501	800	1,509	1,735	7,473	
Sewing machines (thousand units)	1,411	1,394	800	1,430	1,430	N.A.	

a. Preliminary.
b. Net fixed investment.
c. Factory sales.
d. Fertilizer.

CONFIDENTIAL

Sanitized Copy Approved for Release 2011/01/18 : CIA-RDP85T00875R001700030067-4